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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/005,766	11/02/2001	Antti Ruha	872.0100.U1(US)	7390
29683	7590	07/05/2005	EXAMINER	
HARRINGTON & SMITH, LLP 4 RESEARCH DRIVE SHELTON, CT 06484-6212			TRAN, PABLO N	
			ART UNIT	PAPER NUMBER
			2685	

DATE MAILED: 07/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/005,766

Applicant(s)

RUHA ET AL.

Examiner

Pablo N Tran

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 March 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-51 is/are pending in the application.
- 4a) Of the above claim(s) 25-38 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,5-14,17-24,39,40 and 43-51 is/are rejected.
- 7) ☒ Claim(s) 3,4,15,16,41 and 42 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 03/26/03.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of Group I, claims 1-24 in the reply filed on 03/25/05 is acknowledged.

Claim Rejections - 35 USC § 112

2. Claims 2, 14, and 40 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 2, 14, and 40, the claimed limitation "said transmitter circuitry in another IC over a second pair of adjacently disposed conductors" renders the claim indefinite. Is this transmitter the same as the previous claimed transmitter or another one. Appropriated correction is required. For the purpose of examination, the Examiner will interpret as a transmitter and a receiver in another IC.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the

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applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-2, 5-6, 8-9, 12-14, 17, 20, 23-24, 39-40, 43-44, and 46-47 are rejected under 35 U.S.C. 102(e) as being anticipated by *Hairapetian* (6,753,700).

As per claims 1, 5-6, 12-13, 17, and 23-24, 39, and 43-44, *Hairapetian* disclosed a multi-mode Input/Output circuit for transmitting and receiving data between integrated circuits wherein each IC contains at least one of said I/O circuits having at least one of transmitter circuitry (fig. 1/no. 102) and receiver circuitry (fig. 1/no. 104), the IC are constructed with CMOS-based transistors that are selectively interconnected together by switches to operate as two single-ended, voltage mode links (fig. 1, col. 1/ln. 47-col. 2/ln. 19, col. 2/ln. 40-col. 3/ln. 10).

As per claims 2, 14, and 40, *Hairapetian* disclosed the transmitter sends data to the receiver in another IC over a first pair of adjacently disposed conductors (fig. 1).

As per claims 8 and 46, *Hairapetian* disclosed single differential voltage mode with single-ended input drive (col. 1/ln. 47-col. 2/ln. 19, col. 2/ln. 40-col. 3/ln. 10).

As per claims 9, 20, and 47, *Hairapetian* disclosed single differential voltage mode with differential input drive (col. 1/ln. 47-col. 2/ln. 19, col. 2/ln. 40-col. 3/ln. 10).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 7, 10-11, 18-19, 21-22, 45, and 48-49, and 51 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Hairapetian* (6,753,700) in view of *Pena-Finol et al.* (5,832,370).

As per claims 7, 10-11, 18-19, 21-22, 45, and 48-49, *Hairapetian* does not disclose a current mode IC circuitry. However, such is well known in the art, as taught by *Pena-Finol et al.* (fig. 2-5, col. 2/ln. 10-col.4/ln. 45). Therefore, it would have been obvious to one of ordinary skill in the art to provide such teaching of *Pena-Finol et al.* to the communication circuitry of *Hairapetian* to avoid voltage variation and interference data transmission.

As per claim 51, the modified communication circuitry of *Hairapetian* further disclose RF IC and baseband IC (see *Pena-Finol et al.*, fig. 2).

7. Claims 12, 24, and 50 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Hairapetian* (6,753,700) in view of *Bjork et al.* (6,009,314).

As per claims 12 and 24, *Hairapetian* does not disclose a transceiver IC. However, such is well known in the art, as taught by *Bjork et al.* (fig. 1). Therefore, it would have been obvious to one of ordinary skill in the art to provide such circuitry of *Bjork et al.* to the communication circuitry of *Hairapetian* to reduce the size of the radio equipment, more and more functionality is being incorporated onto a single integrated circuit chip.

Allowable Subject Matter

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8. Claims 3-4, 15-16, and 41-42 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Mody et al. (2002/0181390), Hammons, Jr. et al. (2002/0165626), Pautler et al. (6,859,503), Ketchum et al. (6,760,388), Walton et al. (6,751,187), Gesbert et al. (6,760,882), Cheng et al. (6,377,666), Adams et al. (6,665,339), Gabara (6,295,323), Cranford, Jr. et al. (6,031,394), Devlin et al. (5,930,686), 5,966,032, Burzio et al. (5,790,058), Quigley et al. (5,371,424) disclose transceiving circuitry.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pablo Tran whose telephone number is (571)272-7898. The examiner normal hours are 9:30 -5:00 (Monday-Friday). If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Urban, can be reached at (571)272-7899.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

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(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

**PABLO N. TRAN
PRIMARY EXAMINER**

June 25, 2005

A handwritten signature in black ink, appearing to be 'P. Tran', with a stylized, flowing script.

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